Amendments to the Claims

1. (Currently Amended) A process for the enzymatic hydrolysis of oils and/or fats with simultaneous enzymatic formation of fatty acid esters using lipases acting as biocatalysts and alcohols, especially n- and iso-alcohols, ~~wherein~~said process comprising:

causing lipases, as biocatalysts for hydrolysis of oil or fat and formation of fatty acid esters in a fat hydrolysis/esterification, ~~are caused~~ to act on a mixture of triglycerides, water, and an alcohol soluble in oil or fat to create a reaction mixture formed in the fat hydrolysis/esterification;~~,~~

transferring the reaction mixture ~~formed in the hydrolysis process is transferred~~ to a drum of a self-discharging centrifuge for separation into a glycerol-containing aqueous phase and an organic phase that contains the fatty acid esters which have formed;~~,~~

adjusting the centrifuge ~~is adjusted~~ so that a lipase-enriched intermediate layer formed in the centrifuge between the aqueous phase that is drained off and the organic phase that is drained off is accumulated in the centrifuge;~~,~~ and

emptying contents of the drum of the centrifuge, the drum contents including the accumulated intermediate layer, ~~is emptied~~ at specified times ~~and the drum contents that are discharged in this process are recycled~~ for recycling to the combined hydrolysis and esterification process or are made ready for a further hydrolysis and esterification process.

2. (Original) The process of Claim 1, wherein the alcohol is used in an excess of 2 to 100%, preferably 5% to 20%, based on the stoichiometric amount required for esterification.

3. (Currently Amended) The process of Claim 1 ~~or Claim 2~~, wherein the amount of water added is at least 5% by weight based upon the organic phase employed that is comprised of oil or fat and alcohol.

4. (Currently Amended) The process of ~~one of the foregoing Claims~~ Claim 1 ~~through 3~~, wherein the alcohol used is an alcohol which is quite soluble in the organic phase formed, but is considerably less soluble in water, and especially medium-chain to long-chain n- and iso-alcohols.

5. (Currently Amended) The process of ~~one of the foregoing Claims~~ Claim 1 ~~through 4~~, wherein the fat hydrolysis/esterification is carried out discontinuously in reactors that are run in loop operation with the reactor contents circulated by pumps, with multiple reactors being provided in parallel for a single, or for each added, reaction stage, with one of the reactors being filled with the circulating loops not active, with a hydrolysis/esterification operation being run in a second reactor having active circulating loops, with a third reactor having its circulating loops not active and being emptied through a centrifuge which separates the glycerol-containing aqueous phase formed in the hydrolysis process from the organic phase containing the fatty acid esters prior to when the fatty acid esters are separated from the organic phase.

6. (Currently Amended) The process of ~~one of the foregoing Claims~~ Claim 1 ~~through 5~~, wherein the lipases is selected from a group consisting of non-specific lipases, specific lipases, or mixtures of non-specific and specific lipases ~~are used as the lipase~~.

7. (Currently Amended) The process of ~~one of the foregoing Claims~~ Claim 1 ~~through 6~~, wherein the free fatty acids and alcohol from the organic phase are separated by distillation from the fatty acid esters that have formed and these separated free fatty acids and alcohol are returned to the hydrolysis/esterification process.

8. (Currently Amended) The process of ~~one of the foregoing Claims~~ Claim 1 ~~through 7~~, wherein the organic phase drained out from the self-discharging centrifuge is transferred to another self-discharging centrifuge, ~~in particular a polishing centrifuge,~~ which is likewise emptied intermittently to recover lipase residues that have collected as a sediment on the centrifuge wall for reuse in the hydrolysis process.

9. (Currently Amended) A device for carrying out the process of the enzymatic hydrolysis of oils and/or fats with simultaneous enzymatic formation of fatty acid esters using lipases acting as biocatalysts and alcohols, especially n- and iso-alcoholsone, said device comprising: ~~of the foregoing Claims 1 through 8, comprising~~

at least one ~~or more~~ hydrolysis/esterification reactors~~,~~ for use in a hydrolysis and esterification process;

at least one ~~or more~~ self-discharging centrifuges in which a lipase-enriched phase ~~intermediate layer~~ formed in the at least one hydrolysis/esterification reactor ~~collects~~ between ~~the~~ an aqueous phase that is drained off and ~~the~~ an organic phase that is drained off, accumulates in a drum of the at least one centrifuge ~~and~~ which ~~are~~ is emptied at specified times~~,~~;

a feedback system for returning contents of the intermittently emptied drum including said lipase-enriched phase ~~intermittently discharged drum contents~~ from the at least one centrifuge to the combined hydrolysis and esterification process~~,~~; and a

a means for separating ~~the~~ alcohol, free fatty acids and fatty acid esters formed from the organic phase that is supplied from the at least one centrifuge.

10. (Currently Amended) The device of Claim 9, wherein the means for separation is a distillation apparatus~~, especially a short-path still or a falling film evaporator~~.

11. (Currently Amended) A process for the enzymatic hydrolysis of oils and/or fats using lipases acting as biocatalysts to obtain fatty acids and glycerol, said process comprising~~wherein~~:

causing lipases ~~are caused~~ to act as biocatalysts on a mixture of an oil or fat and water to hydrolyze the oil or fat to produce a reaction mixture;~~,~~

transferring the reaction mixture thus produced ~~is transferred~~ to ~~an~~ self-emptying centrifuge for separation into ~~an~~ glycerol-containing aqueous phase and an organic phase that contains free fatty acids that have been hydrolyzed off in the preceding hydrolysis~~,~~;

adjusting the centrifuge ~~is adjusted~~ so as to accumulate ~~collect~~ a lipase-enriched intermediate phase that forms in the centrifuge between the aqueous phase that is drained off and organic phase that is drained off~~,~~; and

emptying the centrifuge of drum contents ~~is emptied~~ at specified times and the centrifuge drum contents that have been emptied from the centrifuge ~~discharged~~ are returned to the hydrolysis process or are prepared for a further hydrolysis process.

12. (Currently Amended) The process of Claim 11, wherein the fat hydrolysis is carried out discontinuously in reactors that are run in loop operation with the reactor contents circulated by pumps, with multiple reactors provided in parallel for a single or for each of numerous reaction stages, with one of the reactors being filled with the circulation loops not active, with a hydrolysis operation being run in a second reactor having active circulation loops, with a third reactor having its circulating loops not active and being emptied through a centrifuge which separates the glycerol-containing aqueous phase formed in the hydrolysis process from the organic phase containing the free fatty acids prior to when the fatty acids are separated from the organic phase.

13. (Currently Amended) The process of ~~either~~ Claim 11 ~~or Claim 12~~, wherein the free fatty acids and alcohol are separated by distillation out of the organic phase from the fatty acid esters that have formed, and are returned to the hydrolysis/esterification process.

14. (Currently Amended) The process of ~~any of Claims~~ Claim 11 ~~through 13~~, wherein the organic phase flowing out of the self-discharging centrifuge is transferred to another self-discharging centrifuge, ~~in particular a polishing centrifuge,~~ which is likewise emptied intermittently to recover residues of lipase that have collected as a sediment on the centrifuge wall for reuse in the hydrolysis process.

15. (Currently Amended) A device for carrying out the process for the enzymatic hydrolysis of oils and/or fats using lipases acting as biocatalysts to obtain fatty acids and glycerolany ~~of Claims 11 through 14~~, said device comprising:

at least one ~~or more~~ hydrolysis reactor~~s~~, for use in a hydrolysis process to form a reaction mixture;

at least one ~~or more~~ self-discharging centrifuges in which the reaction mixture is separated into ~~a lipase-enriched intermediate layer collects between the~~ an aqueous phase that is drained off and ~~the~~ an organic phase that is drained off, wherein a lipase-enriched intermediate layer being formed between said aqueous phase and organic phase is accumulated in the centrifuge, and which ~~are~~ is emptied at specified times~~,~~;

a feedback system for transporting contents of the intermittently emptied at least one centrifuge including the intermediate layer ~~returning the intermittently discharged drum contents~~ from the centrifuge to the hydrolysis process~~,~~; and

a means for separating ~~the~~ free fatty acids from the organic phase that is supplied from the centrifuge.

16. (Currently Amended) The ~~to the~~ device of Claim 15, wherein the means for separation is a distillation apparatus~~, especially a short-path still or a falling film evaporator~~.

17. (New) The device of Claim 16, wherein said distillation apparatus is selected from a group consisting of a short-path still and a falling film evaporator.

18. (New) The device of Claim 10, wherein said distillation apparatus is selected from a group consisting of a short-path still and a falling film evaporator.

19. (New) The process of Claim 14, wherein the another self-discharging centrifuge is a polishing centrifuge.

20. (New) The process of Claim 8, wherein the another self-discharging centrifuge is a polishing centrifuge.